

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A transistor, comprising:

a substrate;

a capacitor line;

a monocrystalline semiconductor layer including a channel region, a lightly doped region, and a heavily doped region, and a capacitor electrode region, the monocrystalline semiconductor layer having a surface, a side extending substantially perpendicular to the surface, and a shoulder portion disposed where the surface and the side intersect;

a gate insulating film provided over the monocrystalline semiconductor layer, layer and under the capacitor line, the gate insulating film having a total thickness set in a range of 60nm to 80nm, and including:

a thermal oxide film formed on the monocrystalline semiconductor layer to a thickness in a range of 5nm to 50nm, the thermal oxide film being thinner at a portion corresponding to the shoulder portion of the monocrystalline semiconductor layer than at other portions;

at least one vapor-deposited insulating film formed on the thermal oxide film, the at least one vapor-deposited insulating film covering an area including at least the channel region, the lightly doped region, and the heavily doped region and the capacitor electrode region of the monocrystalline semiconductor layer, a capacitor being formed by the capacitor line, the capacitor electrode region, and a dielectric including portions of the thermal oxide film and the at least one vapor-deposited insulating film that are disposed between the capacitor line and capacitor electrode region, the at least one vapor-deposited

insulating film having a thickness at the shoulder portion of the monocrystalline semiconductor layer that is substantially equal to that at other portions;

a light-shielding layer disposed between the substrate and the monocrystalline semiconductor layer at a position corresponding to the monocrystalline semiconductor layer, the light-shielding layer being formed from a conductive material selected from the group consisting of a simple metal substrate, an alloy, and a metal silicide including at least one of Ti, Cr, W, Ta, Mo, and Pb; and

an interlayer insulating film that electrically insulates the monocrystalline semiconductor layer from the light-shielding layer.

2. (Original) The transistor according to claim 1, the monocrystalline semiconductor layer being made of monocrystalline silicon.

3. (Original) The transistor according to claim 1, the monocrystalline semiconductor layer being a mesa type.

4. (Original) The transistor according to claim 1, the monocrystalline semiconductor layer having a thickness of 15 to 60 nm.

5-7. (Canceled)

8. (Original) An electro-optical device, comprising:
a transistor according to claim 1.

9. (Original) An electro-optical device in which an electro-optical material is interposed between a pair of substrates facing each other,
a transistor according to claim 1 being provided as a switching element in a display area.

10. (Original) A semiconductor device, comprising:
a transistor according to claim 1.

11. (Original) An electronic apparatus, comprising:
an electro-optical device according to claim 8.
- 12-14. (Canceled)
15. (Original) An electronic apparatus, comprising:
a semiconductor device according to claim 10.
16. (Previously Presented) The transistor according to claim 1, further
comprising:
a capacitor line, the monocrystalline semiconductor layer further having a
storage capacitor electrode portion that includes the shoulder portion, the thermal oxide film
and the vapor-deposited insulating film being interposed between the capacitor line and the
storage capacitor electrode portion and serving as a dielectric.
17. (Canceled)